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ABSTRACT

Instructions are given for constructing a bowling board to aid severely physically handicapped, and wheelchair-confined individuals in bowling. A list of materials needed for building the device is included and diagrams accompany the instructions. (JD)

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BOWLING FOR THE SEVERELY HANDICAPPED

Today there is a definite trend in physical education to develop methods that will enable even the person who is severely physically handicapped to participate in most of the more common sports and recreational activities. Among the more adaptable of these is bowling. The wide use of ingenuity can make the game of bowling available to most any type of handicap.

The "buddy" system is widely used for the severely physically handicapped. This entails using another person as a buddy for the person who is handicapped and bowling with them. They can help with the ball and positioning.

It is important for people such as the severely physically handicapped to learn how to bowl while in school, for once they are out of school it is unlikely that they will on their own initiative take up leisure activities like bowling. Most of the handicapped are too self conscious about their shortcomings to expose themselves to the threat of ridicule and possible failure. Research has shown their self-concept can greatly improve when they learn the skills of bowling and experience some level of success.

Is it possible for everyone to bowl? Can everyone attain success and enjoyment? Can the severely physically handicapped bowl? These are just a few of the questions that have been answered positively with the aid of devices invented by the author.

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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The bowling board (invented by the author) is one device that will make it possible for everyone in a wheelchair and especially those in an electric wheelchair to bowl. The bowling board was developed mainly for the people who are severely physically handicapped and get around by the means of an electric wheelchair.

Any instructor who has access to a shop or can easily obtain the services of a carpenter or industrial arts teacher can construct the bowling board. The following equipment will be needed:

1 - 11" x 18" x 3/4" plywood
2 - 10" x 3/4" flat iron
1 - 1/4-20 x 4" machine bolt with wing nut
1 - 3/4" x 3" rectangular washer
1 - 39" x 3/4" tin siding
7 - 1/2" small screws for siding
4 - 10-24 x 1 1/4" machine bolt with washers and nuts

It will be beneficial to have a sabre saw or a circular saw when cutting the plywood. This will enable sawing the semi-circular spot in the wood so the ball can be positioned and shoved properly. After the board has been cut, the tin siding can be placed around the board with small wood screws. It is not necessary to have siding on the back edge of the bowling board unless one so desires.

The two brackets that connect the board to the wheelchair are made from three-fourth inch flat iron. The base of each bracket is two and one-half inches long with a height of three and three-fourth inches and the two metal braces are one and one-half inches in length. The two braces slide over and under each foot rest on the wheelchair. The flat iron can be easily shaped by adding heat from a welder. Only the bottom brace would have to be cut for the ten inch piece of flat iron and welded to the bracket. A twenty percent degree of angle should be established toward the back of the board for each bracket. This allows the bowling board to be level when placed on the foot rests of the wheelchair.

A hole is drilled in the center of the board just two inches from the back side. This hole is where the four inch machine bolt is placed. The three inch rectangular washer and wing nut are on the top side of the board so the wing nut can tighten the washer at the heel of the foot rests for proper stability.

Two holes should be drilled through the base of the metal brackets and the board. Holes should be drilled in the metal first and then lined up so each bracket is three and one-fourth inches from the back of the board and three and one-half inches from the side of the board. With this proper position, the holes can be marked on the board and drilled. After the one and one-fourth inch machine bolts are attached to the brackets and the board, the bowling board is ready to use.

As one can see by the diagram, the bowling board is easily attached to the wheelchair. The two metal braces slide over and under each foot rest and the wing nut in the center of the board is tightened at the heel of the foot rests.

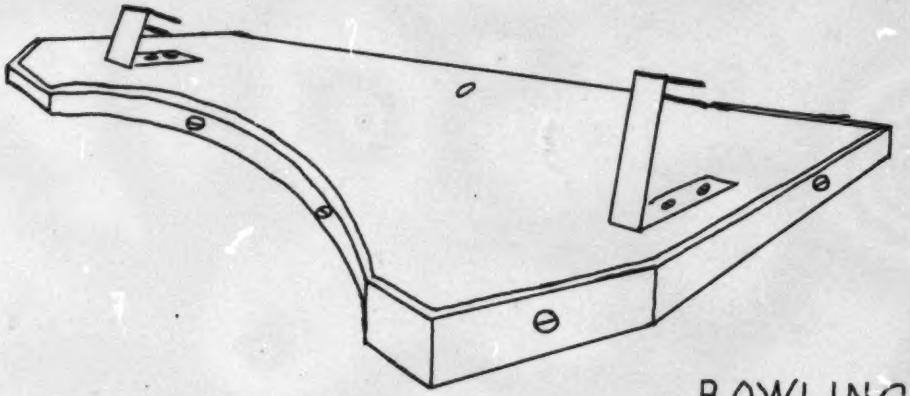
The weight of the ball will vary with each individual depending upon their preference and the amount of hook they wish to put on the ball. Most of the bowlers prefer eight or ten pound balls. Best results will be obtained by using a ball without finger holes and a thumb hole. This will provide the ball with a smooth rolling action down the alley.

The approach must be given careful attention as some will do better with a short approach (equal to a three step approach) while others will do better with a longer approach such as a four step approach. The exact approach can be obtained by proper instruction and dedicated practice.

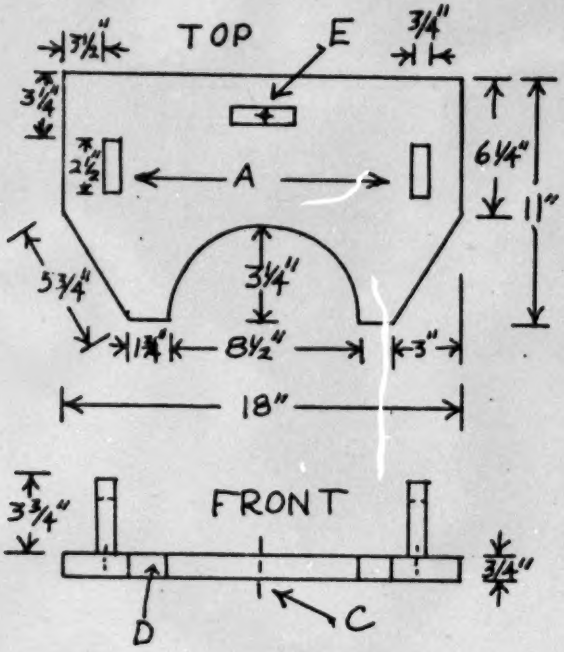
There are only two modifications that have to be made for the person to bowl when they are confined to an electric wheelchair. The modifications are: (1) a buddy system is used which means someone has to place the ball on the floor in front of the bowling board and (2) they bowl using the board attached to their chair instead of the hand and arm motion.

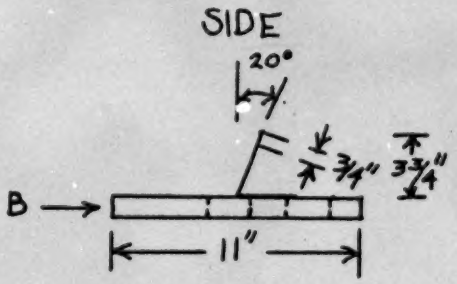
Developing and perfecting the bowling board to its present use took over two years. It takes as much skill, if not more, for the person who is severely physically handicapped to bowl using the bowling board than it does for the so-called non-handicapped person to bowl using the regular method of bowling. The ball has a natural hook when released properly from the board. Proper release means letting the ball gradually pull away from the board at release time instead of giving it a sudden nudge.

If anyone wishes specific specifications and further information, they may be obtained by writing Dr. Larry J. Ankenbrand, McAfee Gym, Eastern Illinois University, Charleston, Illinois 61920.



BOWLING BOARD





BOWLING BOARD
LETTER – PART
A – ¾" FLAT IRON
B – ¾" NO. #1 PLYWOOD
C – 4" MACHINE BOLT / WITH WASHER – WING NUT
D – TIN SIDING
E – 3" RECTANGULAR WASHER